



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/625,879

07/24/2003

Hiroataka Tamura

100021-00131

9232

4372

7590

06/29/2004

ARENT FOX KINTNER PLOTKIN & KAHN  
1050 CONNECTICUT AVENUE, N.W.  
SUITE 400  
WASHINGTON, DC 20036

EXAMINER

NGUYEN, HAI L

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/625,879

Applicant(s)

TAMURA, HIROTAKE

Examiner

Hai L. Nguyen

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-14 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/15/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: line 11, "a" should be changed to --the--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is indefinite because the limitation "the direct phase detection is carried out by detecting a phase difference between the clock and externally supplied data", in lines 3-5, is unclear. Insofar as understood, the recited limitations in claims 1-2 refer to Figs. 2-3 of the present application. Therefore, it is not clear how that limitation, lines 3-5, reads on the preferred embodiment. Since claim 1 recites that "a phase difference detection circuit (1 in instant Figs.2&3) comparing the clock phase output (CLK2) from the clock generating circuit (5) with a phase of a reference waveform (DATA/CLK1), and detecting a phase difference there between". Furthermore, the limitation "the indirect phase detection is carried out by detecting a phase difference between the clock and a data clock synchronized to the externally supplied data", in lines 6-9, has a same problem.

Claims 4-6 are rendered indefinite by the deficiencies of base claim 3.

Claim 7 is similarly indefinite because of the limitation “the phase difference detection circuit comparing an external reference clock with the clock generated by the clock generating circuit, and detecting a phase difference there between”. Note the above discussion with regard to claim 3. Furthermore, the limitation “a phase detection circuit”, in line 8, is unclear. It is unclear if the limitation is introducing an additional detection circuit or further defining the previously recited detection circuit in claim 1.

Claim 8 is rendered indefinite by the deficiencies of base claim 7.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Tagami et al. (US 6,249,160).

With regard to claim 1, Tagami et al. discloses in Fig.5 a clock generator comprising a clock generating circuit (4); a phase difference detection circuit (2, 13) comparing the clock phase output (CLOCK OUT) from the clock generating circuit with a phase of a reference waveform (DATA IN), and detecting a phase difference there between; and a control signal generating circuit (3) generating a control signal for controlling the clock phase of the clock generating circuit, wherein the phase difference detection circuit comprises a plurality of phase detection units; at least one of the plurality of phase detection units (13) carries out a direct phase detection in which a

Art Unit: 2816

phase of the clock is directly compared with the phase of the reference waveform; and at least the other one of the plurality of phase detection units (2) carries out an indirect phase detection using a phase-synchronized waveform generating circuit (6) generating a waveform synchronized in phase with the reference waveform.

With regard to claim 2, the reference also meets the recited limitations in this claim.

***Allowable Subject Matter***

6. Claims 9-14 are allowed.

The prior art of record does not disclose or suggest a clock generator (as shown in Fig.2) comprising a first phase comparator (1) carrying out a phase comparison between an externally supplied reference signal (DATA/CLK1) and an internal clock (CLK2); and specifically the limitation directed to a phase-synchronized clock generating circuit (6) generating a comparison clock synchronized (CLK3) in phase to the reference signal and having a higher clock transition rate than the reference signal; a second phase comparator (7) carrying out a phase comparison between the comparison clock and the internal clock; an adder (4) summing first phase difference information obtained from the first phase comparator and second phase difference information obtained from the second phase comparator; and an internal clock generating circuit (5) generating the internal clock whose phase is adjusted in accordance with an output of the adder.

Art Unit: 2816

***Conclusion***

7. Regarding claims 3-8, the patentability thereof cannot be determined because of their indefiniteness.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For example, Chen (US 6,041,090) is cited as of interest because it discloses a data sampling and recovering in a phase-locked loop (PLL) circuit.

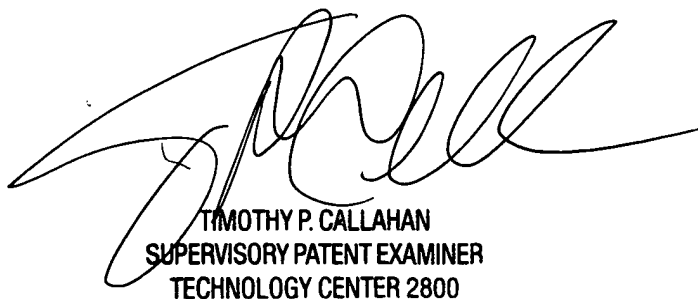
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

HLN

June 23, 2004



TIMOTHY P. CALLAHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800